

MEETING MINUTES (FINAL)

CITY OF TUCSON HABITAT CONSERVATION PLANS

Technical Advisory Committee

Wednesday, April 16, 2008, 1:00 – 4:00 p.m.

U.S. Fish & Wildlife Service, Tucson Field Office

201 North Bonita Ave, Suite 141

Tucson, AZ 85745

ATTENDEES

City of Tucson (COT) Habitat Conservation Plans (HCPs) Technical Advisory Committee (TAC) members present:

Rich Glinski (Arizona Game and Fish Department – *retired*)

Trevor Hare (Coalition for Sonoran Desert Protection)

Guy McPherson (University of Arizona – School of Natural Resources)

Linwood Smith (EPG, Inc.)

Other Attendees present:

Jamie Brown (City of Tucson – Office of Conservation and Sustainable Development)

David Jacobs (Arizona Attorney General's Office)

Kathleen Kennedy (Coalition for Sonoran Desert Protection)

Lynn Rae (Westland Resources, Inc.)

1. Welcome, introduction, and TAC Charter

2. Review of TAC meeting minutes: March 19, 2008

The minutes were approved with an edit from Guy.

3. Updates

Climate Change and Deserts Workshop:

Jamie reported that Leslie Liberti (Director of the City of Tucson's Office of Conservation and Sustainable Development (OCSD)) recently attended the Climate Change and Deserts workshop held in Nevada. Several others from Tucson involved in climate change issues also attended, including Guy McPherson, Gregg Garfin (University of Arizona (U of A) Institute for the Study of Planet Earth), Mike Crimmins (U of A Cooperative Extension), Rebecca Carter (Sonoran Institute), and Travis Huxman (U of A Biosphere 2).

Jamie reported highlights from the workshop that Leslie shared. She said that of all the major climate models in existence, all agree that the desert Southwest will get warmer throughout the next century. What contributes to the significance of this is that these climate models do not

agree on possible impacts for other geographic areas in the world. She also noted that habitat characteristics will change, but at a different pace. For example, vegetation composition will likely change (e.g., species shifting north and higher in elevation) but soils will not change at the same pace. In addition, conference speakers said that the species most vulnerable to climate change include those that inhabit mountain tops, narrow endemics, those with small home ranges, cold-blooded species, soil specialists, and those that are less mobile. Leslie recommended that local jurisdictions working on HCPs—the City of Tucson (COT), Town of Marana (Marana), and Pima County—as well as U. S. Fish and Wildlife Service staff, work with local experts on ways to address climate change in the HCPs. *[Action Item: OCSD staff coordinate a meeting or meetings on the subject of HCPs and Climate Change.]*

Trevor said that he has been arguing the need for this for two years. He added that Pima County and the COT, in his recollection, are considering climate change an “unforeseen circumstance” instead of a “changed circumstance.” According to Trevor, a changed circumstance places onus on the incidental take permit applicant to manage for that change. In contrast, an issue considered an unforeseen circumstance does not require as much of the applicant. Jamie mentioned that, depending on the outcome of the above mentioned meetings on climate change and HCPs, the COT may pursue funding to partner with U of A experts on species habitat models informed by climate change scenarios.

Trevor said that the Doris Duke Foundation recently contributed a large sum of money through wildlife habitat policy research, which he thinks may have gone to The Nature Conservancy. He recommended asking who else in the community is already working on species models under climate change scenarios. Guy mentioned that Carolyn Enquist, The Nature Conservancy’s climate change ecologist for the Southwest coordinates with various entities and individuals on the issue of climate change. She would be a good contact person.

Guy referred to some of the disturbing predictions that were discussed at the climate change workshop, which Rich asked about. Guy said that it is becoming increasingly clear that there will be no habitat for humans on this planet by the end of this century. He said that it is becoming increasingly clear that there will be no habitat for humans any place in the Southwest a lot sooner than that not only for climate reasons, but also “peak oil.” He said that he strongly suspects that the carrying capacity of the Tucson Basin in the absence of fossil fuel is somewhere around zero. And, he thinks that the community will be at that point in five to ten years.

4. Discussion:

A. Pima Pineapple Cactus: Finalize questions and list of botanists and others

There were several follow-up items that TAC members requested at the last meeting regarding Pima pineapple cactus (PPC) information gathering. Jamie reported that Mima Falk (USFWS) was asked about the possibility of sharing PPC Recovery Team documents with the TAC. According to Jamie, Mima said that she would be uncomfortable sharing these documents because the last Recovery Team meeting took place in the late 1990s and, therefore, the information is outdated. Also, because there was no finalized Recovery Plan, associated

documents contain information that did not materialize into an officially approved document. Rich said that he agreed with Mima's reasoning. Linwood also said that he agreed. Trevor wondered if Mima has been continually updating the information that was collected as part of the Recovery Team's work or as part of any required ESA-related consultations. Guy said that the PPC five-year review, which was done several years ago, probably represents the USFWS's most recent information about the PPC.

Guy said that he would be interested in knowing if there are people who were on the Recovery Team who should be approached in the information gathering process. Jamie mentioned that Mima reviewed the preliminary list of botanists and others familiar with the PPC and provided additional names. She did not include every member of the Recovery Team as there were representatives from federal agencies that did not have familiarity with the PPC, but were part of the Team because of their land management roles. She said that if the TAC would like to ask those individuals, Mima would prefer that USFWS staff and not the TAC or the COT initiate the request. Guy said that he did not think these other Recovery Team members needed to be approached.

Rich said that he would like to know who is the most knowledgeable person on Pima pineapple cactus. Guy said that he did not think there is one single expert, but, instead, there is a combination of individuals who have the information the TAC needs. Jamie shared the list of individuals selected to help answer questions about the PPC. The list included: John Anderson (BLM), Marc Baker (Southwest Botanical Research), Stephen Buchmann (current affiliation unknown), Charles Butterworth (Desert Botanical Gardens), Carianne Funicelli (RECON and ANPS), Chris McDonald (U of A), Margrit McIntosh (U of A), Bob Schmalzel (Westland Resources, Inc.) and Tom Van Devender (ASDM).

In terms of the questions to ask the botanists and others, Jamie said that the document with questions and maps was revised based on the discussion at the last TAC meeting. The revised version was then sent back to the TAC for final review and edits. Rich and Guy provided a few, minor edits. OCSD staff then sent the questions and maps to those botanists and others on the list to ask if any of the questions were unclear. Chris McDonald responded and said that he saw no problems with the questions. Bob Schmalzel recommended revising the PPC range map by removing bedrock substrate areas.

Jamie said that Sabra Schwartz of the Arizona Game and Fish Department (AGFD) Heritage Data Management System (HDMS) provided the range map based on a request from Marit Alanen (USFWS). In her notes about the file, Ms. Schwartz said that it is an approximate distribution map and not a predictive habitat model. Guy said that this is an issue of resolution and those familiar with the species know it is not found everywhere within that distribution map. Rich said that he did not recommend changing the map, as most people will know that the species will not occur in the mountains. Trevor concurred.

Trevor suggested that OCSD staff include a map of Marc Baker's PPC occurrence points within the Greater Southlands HCP planning area in the packet. Jamie said that Bob Schmalzel's second recommendation was to provide Marc Baker's PPC survey reports as part of the packet. He said that this would help illustrate the relative densities of PPC in relation to areas within the HCP

planning area. Guy said that the PPC location surveys and associated reports were commissioned by the COT as recommended by the TAC and, therefore, should be used. Trevor concurred.

Jamie requested feedback from the TAC on the timing of the PPC information gathering. Rich recommended that the TAC discuss the PPC responses at the July 16 TAC meeting to allow for enough time for respondents to answer the questions and for TAC members to review the responses. Others concurred.

Trevor asked if more PPC surveys were currently taking place in the Greater Southlands as part of the HCP. Jamie said that Marc Baker's work has concluded. Trevor asked if anyone from the University of Arizona is currently doing PPC fieldwork in the Greater Southlands HCP planning area. Guy said that, to his knowledge, no.

B. Follow-up from review of Greater Southlands HCP (Prelim. Draft, Chapter 5)

Burrowing owl and desert tortoise surveys [Conservation Strategies 9 and 10]

As a biological consultant, Linwood was asked if requiring burrowing owl and desert tortoise surveys prior to ground clearance activities in areas of mapped suitable habitat was excessively burdensome and costly. He was also asked if these species could be surveyed at the same time. Linwood responded, saying that, for example, requiring a developer to survey for burrowing owls or desert tortoises on a 50-acre property planned for housing would neither be costly nor onerous. He believes that these surveys could occur simultaneously and this may be preferred as the probability of finding either is so low. He suggested using the burrowing owl survey protocol as the approach, while simultaneously surveying for desert tortoises. This is because there is currently no statewide survey protocol for the Sonoran population of the desert tortoise (though there is a protocol for surveying the Mohave population).

Bridges and bats

With regard to questions from the last TAC meeting about bat use of bridges, Jamie said that he looked into this issue. He contacted Catesby Willis of the Tucson Department of Transportation (TDOT) with regard to the Campbell Avenue / Rillito River Bridge maintenance. Her response was that maintenance occurred three to four years ago and that Jessie Gutierrez oversaw the work. COT staff took care to avoid the bat nursery season. She said that when the TDOT Streets Division schedules bridge maintenance, they contact her. She then coordinates getting biological consultants to check for the presence of bats and report back on any measures needed to avoid harmful impacts. Trevor said that this policy may need to be codified to allow the COT to get the incidental take permit.

Jamie said that he also contacted Ron Platt in TDOT's Streets Division. Ron shared the Arizona Bridge Information Storage System (ABISS) database, which links information about bridge maintenance to photos of the bridges. Jamie said that one can locate a bridge on a COT web GIS map to find the structure number, which can then be queried in the ABISS database. He noted that the database does not include structures under 20 feet in length. Only one structure in the database was found within the Greater Southlands HCP planning area. Jamie referenced bridge

photos and a map he included in the meeting packet. He has asked Dave Zaleski of Pima County to provide information on bridges that they maintain within the HCP planning area.

Jamie also attempted to contact Jason Corbett of Bat Conservation International as he was told that Jason is the organization's local contact for information about pale Townsend's big-eared bat (PTBB) and the lesser long-nosed bat (LLNB). He also contacted Sandy Wolf who wrote her Master's thesis on bat use of bridges in Tucson. She replied saying that her data is ten years old and does not include information about the PTBB or LLNB. That is, there were no observations of those species using bridges as part of her surveys.

As part of looking more closely at the issue of bat use and bridges, Jamie said that he found some information that may be conflicting as it relates to PTBB and/or LLNB. He read the following excerpts:

From the 2-15-08 Greater Southlands Preliminary Draft HCP:

"Conservation Strategy 11: Survey for bats under bridges prior to bridge maintenance activities.

PTBB are known to use the underside of bridges as night roosts in between foraging trips. Bridge maintenance procedures can result in disturbance to bats occupying the underside of the structure. In order to minimize impacts to bats that may be roosting under bridges, surveys should be done prior to beginning work. The goal is to reduce potential for injury or death of bats due to maintenance activities, such as resurfacing."

From the June 2007 Greater Southlands Preliminary Draft HCP:

"Actions to: Maintain and Improve Availability of Suitable Night Roosts for PTBB.

Pale Townsend's Big-eared Bat Measure 4A: The City will encourage the use of bat-friendly bridge design for new or rebuilt bridges within the HCP planning area.

The concept is that, following a late night peak of activity, PTBB usually go to a night roost, and then forage again in the early morning before returning to their daytime roosts shortly before sunrise. Increased availability of suitable night roosts for bats may, therefore, support increased foraging opportunity for bats within the Expanded Southlands planning area.

The goal is develop a design for the underside of bridges that supports use of these structures as night roosts by PTBB."

HABITAT REQUIREMENTS

In Arizona, summer day roosts include caves and mines in areas of desert scrub, oak woodland, oak/pine woodland, piñon/juniper woodland, and coniferous forest. PTBB prefer to hang from open ceilings at roost sites and do not use cracks or crevices. At maternity roosts, these bats apparently prefer the dim light near the edge of the lighted zone. In Arizona, emergence times and especially return times and patterns probably

vary, as they do elsewhere, depending on insect activity and development stage of young. Night roosts are often in abandoned buildings (Hinman and Snow 2003)."

E-mail received by Ann Audrey (OSCD) dated 2/21/07:

"2. Research on PTBB and LLNB Questions

[Question from Ann] Trico Road bridge has bats living in seams on its underside. Would PTBB occupy such seams?

[Response] Wolf & Shaw's "Bats and Bridges" provides no references of PTBB ever found roosting in any bridges in the Tucson area. Based on the AGFD HDMS species account, PTBB are not known to use bridges as roost sites in Arizona. However, PTBB could roost in soil piping caves such as those found in the Cienega Creek Natural Preserve, as long as the inside of the cave is at least a few feet high."

Bat Conservation International newsletter (Aug. 2004, Vol 2, No. 9)

". . . Tim Snow of the Arizona Game and Fish Department says that, besides Mexican free tails, Tucson bridges provide homes to big brown bats, cave myotis, western pipistrelles and pallid bats. . . "

Jamie asked the TAC which HCP Covered Species of bats use bridges and how so. Trevor asked Linwood if, when Sandy Wolf or Tim Snow performed bat surveys, they surveyed at night or during the day. Linwood said that it is likely that these surveys were performed during the day as most bats are not likely to be under the bridges at night. Linwood said that he suspects that the PTBB is not a species that uses bridges. If there are other structures that are available and preferable to the bat, he said that he didn't think that they could be attracted to bridges if they were made bat friendly. He said that neither the PTBB nor the LLNB roost under bridges. Jamie said that he has also e-mailed these questions about bridge use by LLNB and PTBB to Dennis Abbate.

Guy wondered about the limiting factors for the two bat species. Linwood said that he does not think food is a limiting factor for LLNB. He said that his guess is that LLNB is limited in southern Arizona by the availability of maternity colonies. He did not know what the limiting factor for PTBB would be except for habitat destruction. Trevor suggested asking USFWS staff these questions. He said that if the COT gets credit for the bat surveys prior to bridge maintenance activities, then these activities should be codified. He added that since the other bat species vacate bridges at night to forage, there is unlikely to be any competition for space should the PTBB or LLNB choose to use a bridge as a night roost. *[Action Items: OSCD staff will ask USFWS staff about bridge use by HCP Covered Species and the relevance of conservation strategy 11].*

Trevor recommended that the COT ask the Arizona Department of Transportation (ADOT) if they have any information on bridges so that OSCD staff can have all of this information in one place. Jamie said that it is his understanding that TDOT coordinates with ADOT on bridge

maintenance activities, which are documented in the ABISS. However, it is his understanding that Pima County has its own bridge maintenance program separate from ADOT. Pima County staff has not yet confirmed this.

Desert tortoise surveys

After the last TAC meeting, Jamie contacted Cecil Schwalbe (U of A and USGS) and Dawn Wilson (AMNH: Southwestern Research Station) to get their recommendations on desert tortoise survey methods and local survey contacts. Dr. Wilson deferred to Dr. Schwalbe. In terms of desert tortoise habitat models, Dr. Schwalbe said that the Pima County desert tortoise habitat model is the best model for the area thus far. He recommended a stratified random sampling approach but suggested asking University of Arizona Master Degree student, Erin Zylstra. Erin said that the sampling method depends on the questions the TAC is trying to answer. If the TAC wants a better understanding of the presence and distribution of the species, that would involve a different survey approach than a density survey. She recommended contacting Southwestern Ecological Research about conducting the surveys.

Trevor said that, at this stage, presence / absence is all that the TAC needs to confirm or refine the habitat model. Linwood agreed. Trevor said that Erin's input on the protocols would be valuable as desert tortoise surveying techniques are the topic of her Master's thesis. Given that OCSD recently went through a lengthy environmental consultant request for proposal process, Jamie asked TAC members if they think that most biological consulting companies in Tucson could be considered for the task of desert tortoise surveys. Trevor thinks that many companies in Tucson would have competent staff members or sub-contractors who could perform this work. Jamie will share this with Leslie and discuss how to proceed.

Water quality monitoring in Cienega Creek

Jamie followed up to questions about Cienega Creek water quality monitoring from the last TAC meeting. He said that he received information from Mead Mier of Pima Association of Governments (PAG), which has worked under contract from Pima County to perform water quality monitoring in Cienega Creek. Jamie referred to a map of four sampling locations, two on Davidson Canyon Wash and two on Cienega Creek. He referred to a table of raw data provided to him by PAG staff showing data from 2002, 2003, 2005 and 2007 on conductivity, pH, TDS, and temperature. Jamie noted that PAG also monitors stream flow and groundwater levels. In addition, PAG intends to collect data on 32 additional constituents (e.g., chromium, copper, and lead) to get baseline data prior to the possibility of more metal mining in the watershed.

In the 2003 report, entitled "Contribution of Davidson Canyon to Base Flows in Cienega Creek," there were several noteworthy conclusions drawn from sampling data. These include statements such as:

- Davidson Canyon Wash contributes between 8 and 24% to base flows in Cienega Creek.
- Base flows in Davidson Canyon wash are lower in dissolved solids than in Cienega Creek.
- Dilution by flows from Davidson Canyon wash can be beneficial to some aquatic species.
- Plans to protect water quality of Cienega Creek should also include efforts to maintain quality flows in Davidson Canyon Wash.

Trevor said that Pima County purchased property in Davidson Canyon and has excluded cattle from the riparian areas. However, he said that Pima County staff is still having problems with ATV users riding in the wash despite signage.

Trevor asked if the COT needs to contribute funding to ensure that the data PAG collects occurs consistently and comprehensively enough to answer questions about changes in water quality. Rich said that the main question is why Pima County sponsors this data collection. *[Action Item: OCSD staff ask Pima County staff what their commitment to water quality monitoring is for Cienega Creek and is if the data collection is related to anything biological].*

Jamie said that he also contacted Lin Lawson of the Arizona Department of Environmental Quality about any data they have collected or are collecting. A table of data he received appears to indicate that the latest data were obtained in the 1990s.

City of Tucson NPDES Annual Report

With regard to questions from the last TAC meeting about pollution runoff from roadways, Jamie reported that this is addressed as part of the COT's National Pollutant Discharge Elimination System (NPDES) permit program. According to information he obtained from the COT NPDES Annual Report (which can be found at <http://dot.ci.tucson.az.us/stormwater/>), on December 5, 2002, Arizona became one of 45 states with authorization from the U.S. Environmental Protection Agency to operate the National Pollutant Discharge Elimination System permit program (see Section 402 of the U.S. Clean Water Act) on the state level. Under the Arizona Pollutant Discharge Elimination System (AZPDES) permit program, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain or seek coverage under an AZPDES permit. There are eight municipalities in Arizona that are required to obtain a stormwater permit as part of the Phase I Stormwater Rules. These municipalities are currently operating under individual municipal stormwater permits written by the Environmental Protection Agency between 1997 and 1999. Although the expiration date for these permits has passed, the permits are administratively continued and remain effective until the renewal permits are issued.

Common pollutants addressed include oil and grease from roadways, pesticides from lawns, sediment from construction sites, and carelessly discarded trash. The COT NPDES Annual Report addresses pollution under the following categories: Pollution reduction in residential and commercial areas, drainage system maintenance, measures to control illicit discharges and illegal dumping to stormdrains, municipal landfill and industrial facility controls, and construction site controls.

Jamie reported that, in terms of roadway projects, if more than one acre will be disturbed, a Stormwater Pollution Prevention Plan (SWPPP) is required along with a Notice of Intent to discharge. This includes projects carried out by the COT. According to the NPDES Annual Report, "The SWPPP shall be prepared and implemented in accordance with good engineering practices and shall:

- a. Identify all potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges from the construction site;
- b. Identify, describe, and ensure implementation of BMPs that will be used to reduce pollutants in stormwater discharges from the construction site”

Jamie reported that staff from TDOT’s Stormwater Management Section has been in discussion with representatives from other Phase 1 MS4 jurisdictions and the Arizona Department of Environmental Quality to discuss new language for the permit. The COT would like the new permit language to be flexible enough to allow the COT’s watercourse protection ordinances to qualify as Best Management Practices.

Trevor asked if invasive species seeds are considered pollutants that could be discharged from construction sites and roads. And, if so, he asked if Best Management Practices could be required of construction companies and maintenance crews. Guy said that he suspects that if vehicles are in contact with State-listed noxious plants, then the operators of these vehicles may be required to take preventative action, such as rinsing the tires. However, if the species is not considered “noxious,” then it is probably unlikely that there would be any concern about spreading the seeds via vehicles. *[Action Item: OCSD staff will inquire as to whether or not there are requirements for vehicles in contact with state-listed noxious weeds].*

Trevor expressed concern about stormwater pooling up adjacent to roadways which then attracts animals, such as amphibian species. Vehicles then kill many of these animals. Trevor would like any environmentally sensitive roadway design guidelines to require that roads are not designed so that water accumulates alongside roadways. Rich asked Trevor what the minimum distance from a road where water could accumulate and not adversely impact species. Trevor said that, with dirt roads, the ideal is to allow sheet flow to move across the road. So, in general, roadbeds should be at grade with the surrounding lands. However, he said that his is not speaking as a transportation engineer. Rich responded that the sheetflow on roads can cause vehicles to collide or rollover if they hydroplane. He suggested that guidance focus on diverting stormwater away from the roadway by a certain threshold distance. Trevor concurred and added that on Old Spanish Trail road after the heavy summer rains many breeding amphibians die from vehicle impacts.

Guy said that, in general, the COT’s NPDES program sounds like it adequately addresses concerns over pollutant discharge into waterways.

Greater Southlands Conservation Program (Chapter 5)

Jamie referred to the discussion at the March TAC meeting in which Leslie and the TAC discussed the conservation strategies described in the February 15 Preliminary Draft HCP. He said that there appeared to be general support of these measures from the TAC members present except for the data gaps (i.e., Pima pineapple cactus and desert tortoise). Jamie asked if there are items that still need to be addressed so that all TAC members are comfortable with these strategies. Trevor said that his comfort level is pretty high at the moment. However, he said that he intends to review the strategies with staff and members of the Coalition for Sonoran Desert Protection and provide comments.

5. Upcoming meetings

The TAC discussed Dennis Kubly's upcoming visit to Tucson. At this meeting, Mr. Kubly will lead discussion of adaptive management with Marana's Technical Biology Team and the COT TAC. Trevor recommended that information on monitoring strategies, whether in partnership with Pima County or not, be provided to Dennis as this information is critical to adaptive management. According to Rich, Dennis Kubly said that the stakeholder groups would be an important audience for this discussion in addition to the technical teams. This is so that the stakeholders understand the important role adaptive management plays in the HCPs. Trevor agreed. TAC members noted the importance of coordinating monitoring with other jurisdictions so that the data collected can be shared and there can be economies of scale. Trevor recommended that Leslie speak with Maeveen Behan about the importance of COT and Pima County partnering on monitoring.

The May TAC meeting was cancelled to allow OCSD staff time to complete the revision to the Avra Valley HCP by May 30.

6. Call to the Audience

No comments

7. Adjournment

The meeting was adjourned at 2:45 p.m.

Summary of Action Items:

- OCSD staff coordinate a meeting or meetings on the subject of HCPs and Climate Change
- OCSD staff will ask USFWS staff about bridge use by HCP Covered Species and the relevance of conservation strategy
- OCSD staff ask Pima County staff what their commitment to water quality monitoring is for Cienega Creek and is if the data collection is related to anything biological
- OCSD staff will inquire as to whether or not there are requirements for vehicles in contact with state-listed noxious weeds